

Statement of Robert Mallett Deputy Secretary of the Department of  
Commerce before the Senate Committee on Commerce, Science, and  
Transportation on the Year 2000 Computer Problem

Introduction

I am Robert Mallett, Deputy Secretary of the Department of Commerce. I am pleased to be here with you today to discuss the year 2000 computer problem and activities the Department of Commerce is taking in response to this problem.

The Department's primary mission is to ensure economic opportunity and a high standard of living for all Americans through economic growth and job creation, promotion of trade, and advances in technology. The Department implements programs that support research and development and promote the application of innovative technologies to commercialization of business processes; protect life and physical property; manage natural resources and tell us much about the natural environment; ensure protection of intellectual property; expand opportunities in the international marketplace through export licensing; provide management and technical assistance to minority business and economically distressed areas; and collect and disseminate economic and demographic data and environmental information used by private and public sector policymakers to measure our national economic well-being. Given the Department's mission, the year 2000 problem is of particular concern.

Some 60 senior corporate executives from companies including Texas Instruments, Unilever, Ford, Bombardier, and Lloyds TSB Banking recently warned President Clinton and the Prime Ministers of Britain and Canada that government failure to solve year 2000 problems could produce "delays in welfare payments, the triggering of financial chaos by a breakdown in revenue collection and debt management, and malfunctions in the air traffic control and defense systems." We can already see the initial effect of the year 2000 crisis on our economy.

While Commerce itself does not have regulatory authority over private industry business sectors, we do recognize that the Department can play a supportive role in encouraging businesses to address the year 2000 problem in an aggressive fashion. Secretary Daley has been an active leader in promoting year 2000 awareness in the business community, domestically and, more recently, internationally. He has done so in recent visits to South America and will in upcoming overseas missions to Africa. While many businesses have taken positive steps to ensure continuity of operations beyond the year 2000, there is a level of inconsistency throughout the various business sectors. There is also a great deal of disagreement between the costs estimated by U.S. businesses, and those by research groups studying the problem. One thing we do know is that the year 2000 problem poses a significant risk to industry's ability to conduct business beyond December 31, 1999. Not only could the costs of correcting this problem eat away at company profits, the inability to conduct business and potential liability costs could force some companies to go under. Commerce will do everything it can to minimize the consequences of this problem.

Department of Commerce Year 2000 Management Program

The goal of Commerce's internal year 2000 program is to manage successfully and efficiently the conversion of our information systems to process data accurately into the next century. This will allow us to continue to meet our business requirements. Like other Government agencies, we are using a five-phase target dates for completion are as follows: Awareness (August 1996), Assessment (March 1997), Renovation (September 1998), Validation (January 1999), and Implementation (March 1999).



Our management program divides responsibilities between the Department and its operating units. At the Department level, responsibilities include overall Department's Year 2000 Program Management Plan, Departmental guidance and policy, coordination of the conversion of cross-cutting administrative systems, program oversight, and participation on the CIO Council Subcommittee on the Year 2000.

Operating units have responsibility to conduct assessments of information systems under their purview, develop and implement an action plan for becoming year 2000 compliant, and prepare inventories of information systems and data exchanges. The operating units must also identify specific year 2000 costs, prepare contingency plans for systems at risk, coordinate external and internal data exchanges, and coordinate with the Department to ensure the compliance of administrative systems.

The Department of Commerce has undertaken a number of communications and leadership initiatives to address the year 2000 issue. At each Commerce Chief Information Officer (CIO) Council meeting, we discuss the year 2000 problem. The Department has formed a Year 2000 Working Group, which is chaired by the Department's day-to-day year 2000 program manager and consists of representatives from each operating unit. The group meets monthly to exchange ideas and report on progress regarding year 2000 conversions. The larger operating units have implemented similar year 2000 risk management groups. Commerce has prepared a comprehensive Year 2000 Program Management Plan, which includes our overall strategy as well as specific tips for each phase of the conversion process.

In the area of awareness, Commerce started its efforts in December of 1995 with a briefing from Social Security Administration technical staff to senior Departmental technology managers. Recent activities include a Commerce CIO Council meeting in January 1998 devoted exclusively to the year 2000 issue. Operating unit CIO's provided status reports on their year 2000 efforts. Year 2000 will be a priority topic at the Department's Information Technology/Acquisition Management Conference in May 1998, as it was at the June 1997 conference.

At the assessment level, in August 1996, the Department requested that operating units inventory their systems, assess the impact of year 2000 computer processing problems, develop a management action plan, and identify the necessary resources to resolve the problem. In June 1997, we requested that the operating units update their inventories to prioritize mission-critical systems, identify internal and external interfaces, and define renovation-replacement quarterly status reports with the Office of Management and Budget (OMB), including detail by operating unit.

As of the February status report to OMB, Commerce showed that 63% of its 470 mission-critical systems were year 2000 compliant. Of the 110 systems to be renovated, 42% of the renovations were completed. Estimated year 2000 conversion costs were \$83.4 million. Based on the February data, OMB classified the Department of Commerce as a tier 2 agency, one that is making progress but for which there are still concerns.

The Department of Commerce has performed its own triage assessment of operating unit progress using a red-yellow-green measurement system. Based on this assessment and following concerns expressed by OMB, the Department held meetings with key officials in the Census Bureau, Patent and Trademark Office (PTO), National Oceanic and Atmospheric Administration (NOAA), and International Trade Administration (ITA) to discuss year 2000 progress and identify risks and concerns.

In the area of contingency planning, we are currently renovating non-compliant systems where replacement systems delivery is at risk. Using the General Accounting Office exposure draft on Business Continuity and Contingency Planning as guidance, we will develop a high-level business continuity strategy,



assess the potential impact of mission-critical system failures on Commerce's core business processes, and identify and document contingency plans and implementation modes.

For electronic data exchange, we are encouraging operating units to convert systems and data to a four-digit year field format whenever appropriate and providing multiple formats where practical to allow maximum access by the public to Commerce data. Of Commerce's 265 electronic data exchanges, 239 are with other Federal agencies. Only the Census Bureau conducts electronic data exchanges with States.

Current program efforts include identification of the Department's top priority mission-critical systems and renovation efforts, development of a Commerce year 2000 Internet Web page to complement a year 2000 page already in place from NIST, establishment of a contract vehicle for conducting independent verification and validation of year 2000 conversions and replacement systems, and assessment of non-information technology products (telecommunications, elevators, security systems, heating and ventilation systems, fleet, and aircraft) Possible future program activities include asking owners of the most critical systems to come before the Commerce Information Technology Review Board to explain their year 2000 programs, progress, and concerns and holding a year 2000 stand-down day, inviting outside speakers and year 2000 vendors to present their services.

In short, the Commerce Department has an active and multi-faceted year 2000 management program. We are making steady progress, though we recognize that much work remains.

Even with the positive reports the Secretary and I have received about the progress Commerce bureaus are making, we are carefully scrutinizing where we stand. Our operating philosophy derives from an old President Reagan quip about the Soviet Union's compliance with arms control rules: Trust but verify.C

John Koskinen, assistant to the President and chair of the President's Council on the Year 2000 Conversion, notes that the Federal government has a responsibility to exercise leadership to increase awareness of the year 2000 problem and to offer appropriate assistance and support. The Department of Commerce heartily agrees. Next I would like to describe outreach, research, and guidance activities we have already undertaken and those we plan to pursue in the future.

#### National Institute of Standards and Technology

The Department of Commerce, through the National Institute of Standards and Technology (NIST), has been active in various arenas of the year 2000 issue, through standards organizations, direct contact with users of these standards, and the development of testing techniques and strategies. NIST is also taking advantage of its ties to smaller manufacturers through its Manufacturing Extension Partnership.

Commerce recognizes that there is no across-the-board solution to the year 2000 problem and no need for additional date format standards. National and international date format standards already exist. A single date processing standard would not be meaningful due to the numerous individual agency requirements within specific applications and systems. Date processing routines are already provided in many programming languages and software development environments. However, NIST has been working on an array of other helpful activities, including:

#### Small Business and Manufacturing Outreach

□□□ NIST's Manufacturing Extension Partnership (MEP) helps small and medium-sized manufacturers a significant element of our economy with year 2000 problems. For example, the MEP center in Michigan has been conducting year 2000 overview seminars for Michigan's smaller



manufacturing firms and is planning to conduct user support groups for mutual and NIST-assisted help with year 2000 project planning and management. Adopting this approach, the MEP centers in all 50 states and Puerto Rico are positioning themselves to deliver year 2000 awareness seminars, client assessments, and remediation planning. In addition, NIST personnel participate in presentations and workshops primarily as invited speakers to raise awareness and present practical solutions to organizations of small businesses and manufacturers throughout the United States.

À□□À As we approach the year 2000, the Department of Commerce intends to continue its leadership in helping our economy avoid any problems associated with year 2000 computer errors. In the coming year, NIST will hold a series of information-sharing workshops for a variety of audience in different locations. These workshops are now in their initial planning stages. We have targeted one for State and local governments this June. We are planning regional conferences around the country beginning in September focused on helping American businesses. We will coordinate this session with the Small Business Administration, which has an outreach initiative to the small business community, and our Manufacturing Extension Partnership, which has an outreach initiative for the manufacturing community. Further, Secretary Daley is planning an international workshop in October to assist other national governments. Despite its problems, the United States is far ahead of most other countries in confronting the problems. Canada and the United Kingdom have taken a number of steps, the rest of the developed world fewer steps, and the developing world almost none at all. Thailand, for instance, has yet to conduct a potential damage assessment, let alone budget funds for repair. In February, Mr. Chairman, your colleagues Senator Robert Bennett (R. - Utah) and Senator Christopher Dodd (D. - Conn) warned Treasury Secretary Robert Rubin that lack of attention to the year 2000 snare "will cause international financial disruptions larger than the current Asian crisis." Secretary Daley, Ambassador David Aaron, our Under Secretary for International Trade, and I are committed to raise this concern in all our international dialogues with our overseas counterparts and with the foreign business community.

À□□À NIST International Symposium on the Year 2000 -- "The Millennium Rollover"

To help raise awareness of the problem internationally, NIST held an International Symposium on the Year 2000, June 9-10, 1997, at its Gaithersburg campus. With over 35 speakers from national and international organizations, a number of year 2000 issues were discussed. Topics included the management and technical issues of year 2000 conversion, testing for compliance to date/time processing requirements, the market development of conversion tools and vendor services, resource tracking and monitoring, case studies by corporations and national governments including those of Australia, Sweden, and the United Kingdom, and legal aspects of product/vendor liability. Special sessions on international aviation year 2000 issues and test methods for year 2000 were also included, as well as an exhibition that showcased over 20 vendors and their products to demonstrate different approaches available right now.

À□□À Development of a specification for defining the types of tests needed for date/time testing in software.

This specification, "Draft Test Assertions for Date and Time Functions," written by NIST, defines assertions for use in testing date and time functions. The test assertions are based on common needs found in numerous sources and application requirements including various programming language, database, network, and operating system specifications and standards.



À□□À Participation in the IEEE Study Group on Year 2000 Test Methods.

NIST hosted the second meeting of the Institute of Electrical and Electronics Engineers (IEEE) Study Group on Year 2000 Test Methods at the International Symposium on the Year 2000. The goal of the Study Group is to produce a set of "recommended practices" sanctioned by the IEEE and industry for developing tests of software and hardware to assure that the software and hardware are not affected by date/time problems. NIST's "Draft Test Assertions for Date and Time Functions" is one of the base documents for consideration in the development of the recommended practices document. Meetings of the Working Group are continuing and a draft document for ballot is being readied for mid-1998.

À□□À FIPS 4-1 and Change Notice.

A change notice to Federal Information Processing Standard (FIPS) 4-1 on date formats was issued on March 25, 1996, recommending use of the four-digit year format and discouraging use of the 2-digit year format. The original FIPS was issued as FIPS 4 in 1968, based on an American National Standards Institute (ANSI) standard.

À□□À Year 2000 Bulletin

NIST published a Bulletin on the Year 2000 Problem in March 1996 to raise awareness of the issues and to propose methods for managing the conversion of systems to year 2000 and beyond. A proposal for a second Bulletin on Year 2000 Solutions is in process.

À□□À Interagency Committee on the Year 2000.

NIST is a member of the U.S. Government Chief Information Officer Council's (CIO Council) Committee on the Year 2000, which assists Federal agency efforts in converting systems to year 2000 compliant systems by promulgating information gathered through the Committee's efforts in researching conversion best practices, procurement requirements and regulations, compliant product databases, and vendor liaison.

À□□À National Association of State Information Resource Executives (NASIRE).

NIST is a member of the National Association of State Information Resource Executives (NASIRE) and is active in their year 2000 subgroup.

À□□À World Wide Web page on the Year 2000.

NIST hosts an Internet Web page designed to provide up-to-date information on standards and testing aspects of the year 2000 issue. Thousands of users have found white papers, software, contacts, and links to many other informative web sites. (See Web site <http://www.nist.gov/y2k>.)

À□□À Software developed at NIST

NIST has developed a computer program that will assist organizations in determining how extensive their year 2000 problem will be. The program is in the public domain and is available free to anyone by downloading it from the NIST Website. It is used only as a means to measure the need an organization has. This software resulted from efforts to verify estimates of cost and system sizes that were published in the trade press during initial public response to the year 2000 problem in 1996.

NIST has also developed a reference data set generator that contains the correct calendar dates, ordinal dates, day of the week for each day, Julian day number, and leap year indicator. This information can be used to check the results of date computations produced by application programs.



The software is available on the NIST Website.

A third software product that was initially used in general software debugging and testing has been applied to the year 2000 testing effort. Called Unravel, the software is used to search out the effects of software changes on particular date variables within programs and to correct software errors. Blair and Associates, a high-tech engineering firm of Hanover, MD, incorporates the NIST software in their commercial year 2000 product.

#### Year 2000 Certification Criteria

NIST has been invited by Dr. Paul Strassmann, former Director of Defense Information at the Department of Defense, to assist and advise in developing a certification definition and process for industry to use in determining "good practices" for certifying year 2000 testing activities. Dr Strassmann is working with the Software Test Assurance Corporation (STACorp), which is funded specifically for this purpose by agreement from 11 of the largest insurance companies in the United States. A draft document has been released with the next version scheduled for May 1998.

In summary, the National Institute of Standards and Technology is active in disseminating knowledge and tools that will help other government agencies, industry, and the international community address the year 2000 problem.

#### Other Commerce Activities

Since we live in an automated information technology world with inter-linked and interdependent systems on a global scale, the International Trade Administration (ITA) has prepared an information statement for its domestic and international field offices. The statement is intended to raise awareness in these organizations of the year 2000 problem so that they can tackle the problem in their own offices, but more importantly, so that they may advise and alert their clients, commercial organizations that are seeking to do business abroad. ITA plans other promotional activities to reach out to the international business community, particularly in countries where year 2000 efforts are not well developed.

Selected operating units are working with their international counterparts through existing international organizations to address year 2000 compliance. For instance, the Patent and Trademark Office is working with the World Intellectual Property Organization and the National Oceanic and Atmospheric Administration is involved with the World Meteorological Organization.

The National Telecommunications and Information Administration (NTIA) is positioned to reach out to the telecommunications industry to promote year 2000 awareness and to speed system conversions. NTIA will participate on the Telecommunications Subcommittee of the President's Council on the Year 2000 Conversion. The Economic Development Administration and the Minority Business Development Agency (MBDA), working with the Small Business Administration, will reach out to the business community through their existing networks of contacts. Specifically, MBDA, in collaboration with NIST, is preparing an electronic training package on the subject of electronic commerce, a component of which will address the year 2000 issue. The training package will be available to MBDA's base of 60,000 clients.

The Department of Commerce has responded to numerous items of correspondence from businesses, citizens, and other interested parties regarding the Federal Government's management of the year 2000 issue. We have provided responses addressing the writers' particular concerns and, more generally, raising the level of awareness regarding year 2000 issues.

Finally, at John Koskinen's request, the Department of Commerce will reach out to the Nation's insurance industry to do whatever we can to help raise the



industry's level of awareness of the importance of the year 2000 problem and of the need to devote appropriate resources to its resolution. We will help this key component of the national economic infrastructure to meet the year 2000 challenge.

#### Conclusion

The Department of Commerce recognizes that the year 2000 problem is serious and poses a unique challenge to our country and the global economy. Our goal is to ensure that the U.S. economy will not suffer undue interruption.

Our internal management of the year 2000 program is strong and active. I noted earlier the critical role the Department plays in this Nation's economy. Many of the systems that allow us to detect severe storms and issue warnings, to gather key economic data, and to provide industry with measures and standards are fixed and being independently tested. Other important systems are still being renovated or replaced. Though we recognize that much work remains and that we must maintain continued management focus on the year 2000 issue, we are cautiously optimistic about a successful resolution of the year 2000 problem for the Department of Commerce.

As part of Commerce's mission to help sustain a healthy economy in the United States, we are also keenly interested in promoting year 2000 awareness and offering year 2000 assistance within the global business community. We have already undertaken a number of outreach, research, and guidance activities and will continue to expand our year 2000 efforts in the business community as a whole. As a member of the President's Council on the Year 2000 Conversion and as Deputy Secretary of the Department of Commerce, I will champion year 2000 awareness and conversion activities within Commerce and throughout the global economy.